

WHAT IS CLAIMED IS:

1. An apparatus for controlling opening and closing of a folder in a foldable mobile communication terminal having a main body and a sub-body
 5 foldably mounted on the main body, said sub-body being opened or closed either automatically or manually in compliance with a user's selection, said apparatus comprising:

a sensor means arranged at one end of the main-body and the sub-body, for detecting a fully open status or a fully closed status of the sub-body on the
 10 main-body;

a sub-body opening and closing drive unit for automatically opening or closing the sub-body by means of activating a sub-body drive motor rotatably coupled with said one end of the sub-body, under control of a control unit;

a current sensing unit coupled to the control unit for sensing an amount
 15 of motor drive current applied to the sub-body drive motor and providing the sensed amount of motor drive current to the control unit; and

said control unit for taking a measurement of the amount of the motor drive current output from said current sensing unit upon enabling of an automatic opening or closing operation of the sub-body in the sub-body opening and
 20 closing drive unit in compliance with the user's selection of automatic sub-body control, and for discontinuing to drive the sub-body drive motor when the measured amount of the motor drive current is larger than a predetermined current threshold value and the sensor means senses either one of a fully open status or a fully closed status of the sub-body.

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2. The apparatus as claimed in claim 1, wherein said sensor means further comprises:

a first magnet disposed in a hinge rotatably connected to one end of the sub-body and the main-body, said hinge being provided with the sub-body
 30 opening and closing drive unit;

a second magnet mounted inwardly on an inner surface of the sub-body, spaced apart from the hinge;

an opening sensor disposed, in the vicinity of the hinge, on one end of a lower surface of a printed circuit board inside the main-body, for providing the
 5 control unit with a first sensing signal indicating a fully open status of the sub-body from the main-body, when the first magnet is placed in close proximity to the opening sensor; and

a closing sensor disposed in a position opposing to the second magnet, spaced apart from the hinge, on the printed circuit board inside the main-body,
 10 for providing the control unit with a second sensing signal indicating a fully closed status of the sub-body onto the main-body, when the second magnet is placed in close proximity to the closing sensor.

3. A method for controlling automatic opening and closing of a
 15 folder in a foldable mobile communication terminal having a main body, a sub-body foldably mounted on the main body, a sensor means for detecting a fully open status or a fully closed status of the sub-body with respect to the main-body, and a sub-body opening and closing drive unit for automatically opening or closing the sub-body by activating a sub-body drive motor, under control of a
 20 control unit, the method comprising the steps of;

taking a measurement of an amount of motor driving current applied to the sub-body drive motor when there is an activation of the sub-body opening and closing drive unit to drive the sub-body drive motor for opening or closing the sub-body in compliance with a user's selection to automatic opening or
 25 closing by a switch; and

discontinuing to drive the sub-body drive motor when the measured amount of motor driving current is greater than a predetermined current threshold value and the sensor means detects either a fully open status or a fully closed status of the sub-body.

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4. The method as claimed in claim 3, wherein the measurement of the amount of motor driving current is carried out in a period of several tens of milliseconds.